This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (original): An full-duplex optical communication system comprising:

a transmitter for transmitting a linearly polarized electromagnetic beam to an object;

a first quarter-wave plate for converting the linearly polarized beam into a circularly polarized beam;

a signal collection apparatus for directing the beam to the object and collecting the beam returned from the object;

a retro-modulator for directing the beam incident on the object back to said signal collection apparatus and for assigning left-handed and right-handed circular polarizations to the returned beam according to binary data bit information;

an aperture sharing element for separating the transmitted and returned electromagnetic beams;

a second quarter-wave plate for converting the left and right-handed circularly polarized beams into two orthogonally polarized beams respectively; and

at least one beam splitter for separating the two orthogonally polarized beams.

Claim 2. (original): The system of claim 1 wherein said transmitter comprises a diode laser.

Claim 3. (original): The system of claim 1 wherein said aperture sharing element comprises a mirror with an opening defined therein.

Claim 4. (original): The system of claim 1 wherein said retro-modulator comprises a liquid crystal retro-modulator.

Claim 5. (original): The system of claim 1 wherein said at least one beam splitter comprises:

a first beam splitter for sending less than 1 percent of the returned beam from said aperture sharing element to a first FADOF and the remaining portion of the returned beam to said second quarter-wave plate; and

a second polarizing beam splitter for separating the two orthogonally polarized beams.

Claim 6. (original): The system of claim 5 further comprising:

a second FADOF for receiving one of the orthogonally polarized beams from said second polarizing beam splitter;

B Cont.

a third FADOF for receiving the other of the orthogonally polarized beams from said second polarizing beam splitter; and

means for subtracting the orthogonally polarized beams.

Claim 7. (original): The system of claim 1 wherein said system is capable of achieving a data rate of up to 10 kbps with a signal-to-noise-ratio greater than 2,100.

Claim 8. (original): The system of claim 1 wherein said transmitter transmits a beam having a signal power less than or equal to 0.2 watts.

Claim 9. (canceled)

Claim 9. (currently amended): A method of full-duplex electro-magnetic communication, the method comprising the steps of:

selecting a pair of data modulation formats for forward and return data links respectively such that a forward data electro-magnetic beam also serves as a carrier for return data; ~~The method of claim 9 further comprising the steps of:~~

transmitting a linearly polarized electromagnetic beam to an object;

converting the linearly polarized beam into a circularly polarized beam;

directing the beam to the object and collecting the beam returned from the object;

assigning left-handed and right-handed circular polarizations to the beam incident on the object according to binary data bit information;

separating the transmitted and returned electromagnetic beams;

converting the left and right-handed circularly polarized beams into two orthogonally polarized beams respectively; and

separating the two orthogonally polarized beams.

Claim 10. (currently amended): The method of claim [[9]] 9 wherein the step of transmitting comprises transmitting with a diode laser.

Claim 11. (currently amended): The method of claim [[9]] 9 wherein the step of separating the transmitted and returned electromagnetic beams comprises separating with an aperture sharing element comprising a mirror with an opening defined therein, through which the transmitted and returned beams pass.

Claim ~~13~~ 12. (currently amended): The method of claim [[9]] ~~10~~ 9 wherein the step of assigning left-handed and right-handed circular polarizations to the beam incident on the object according to binary data bit information comprises flipping the incident right-hand polarized beam into a left-hand polarized beam to represent a first binary state and leaving the incident right-hand polarized beam unchanged for the second binary state.

Claim ~~14~~ 13. (currently amended): The method of claim [[9]] ~~10~~ 9 wherein the step of separating the transmitted and returned electromagnetic beams further comprises sending less than 1 percent of the returned beam to a first FADOF and the remaining portion of the returned beam to a second quarter-wave plate to be converted into the two orthoganally polarized beams.

Claim ~~15~~ 14. (original): The method of claim ~~14~~ 13 wherein the step of separating the two orthogonally polarized beams comprises:

receiving one of the orthogonally polarized beams at a second FADOF;

receiving the other of the orthogonally polarized beams with a third FADOF; and

subtracting the orthogonally polarized beams received by each of the FADOFs.

Claim ~~16~~ 15. (currently amended): The method of claim [[9]] ~~10~~ 9 further comprising the step of achieving a data rate of up to 10 kbps with a signal-to-noise-ratio greater than 2,100 during the optical communication.

Claim ~~17~~ 16. (currently amended): The method of claim [[9]] ~~10~~ 9 wherein the step of transmitting a linearly polarized electromagnetic beam to an object comprises transmitting a beam having a signal power less than or equal to 0.2 watts.

Claim 18. (canceled)